

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 63-309846
(43)Date of publication of application : 16.12.1988

correspond to
JP 07-104304 B

(51)Int.Cl. G01N 25/68
G01N 21/47

(21)Application number : 62-145764

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(22)Date of filing : 11.06.1987

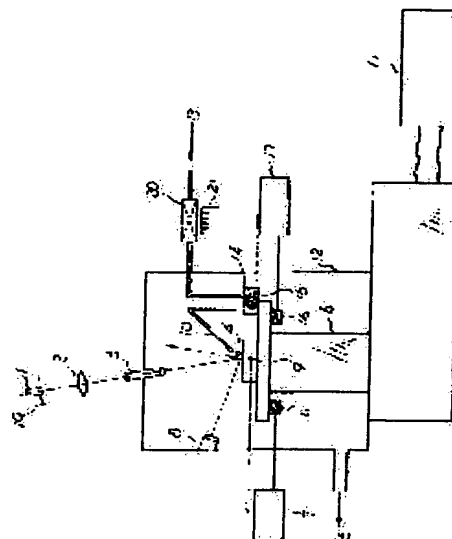
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(54) METHOD AND DEVICE FOR MEASURING TRACE MOISTURE QUANTITY IN GAS

(57)Abstract:

PURPOSE: To contrive to execute a measurement at $\leq -80^\circ$ with high accuracy by radiating a condensed light beam, etc. to a part to which gas to be measured has been blown, on the specular surface, in an optical dew-point instrument, and measuring a sudden increase of scattered light generated at the time its reflection.

CONSTITUTION: A light beam from a light source 1 is condensed by a parabolic mirror 19 and a convex lens 2, condensed onto a specular surface 4 through an incident window 3, a helium refrigerator 5 is allowed to come into contact with the specular surface 4, and also, a specular surface temperature is controlled by a heater 6 and a temperature controller 7. Also, this device is constituted so that the light beam which is reflected by the specular surface 4 is measured by a photodetecting element 8 installed on an optical path being different from a reflected light path. Subsequently, gas to be measured is led in from an inlet 13, cooled to a little higher temperature than that of the specular surface 4 by a precooler 14, and thereafter, blown from a nozzle 10, cools gradually the specular surface 4, and coagulates water in the gas, and an increase of scattered light is measured, and also, a temperature of the specular surface 4 is measured by a thermocouple 9.



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[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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